

REMARKS

Claims 1-15 and 17-21 are pending in the present application. The non-final Office Action of January 19, 2007 indicated that Applicants' prior arguments were moot in view of the new ground(s) of rejection, and the finality of the prior Office Action (October 19, 2006) was withdrawn.

Summary of Office Action

Applicants acknowledge the Examiner's indication of allowable subject matter in claims 2-6, 9-13 and 17-21 as indicated at page 5 of the Office Action. Claims 2-6, 9-13 and 17-21 were indicated as allowable if rewritten to include the limitations of base and any intervening claims.

Claims 1 and 14 – 15 were rejected under 35 U.S.C. §103 as being unpatentable over Rodriguez (U.S. Patent 4,622,627) in combination with Cama et al. (U.S. Patent 6,211,457). Claim 7 was rejected under 35 U.S.C. §103 over Rodriguez et al. (U.S. Patent 4,622,627) in combination with Nakamura et al. (U.S. Patent 4,906,208). Claim 8 was rejected under 35 U.S.C. §103 over Cross (U.S. Patent 5,615,097) in combination with Rodriguez et al. (U.S. Patent 4,622,627).

Rejection under 35 U.S.C. §103 over Rodriguez in View of Cama et al.

Claims 1 and 14 have been amended to clarify that the recited power converter is "mountable as a component on a printed circuit board to supply direct current power to the printed circuit board" (claim 1) or is "mounted as a component on said circuit board to supply power to said circuit board" (claim 14). As noted by Applicants such language is believed to clarify the language previously found in the respective claims. This rejection is respectfully traversed in view of amendments and arguments set forth below.

As set forth in MPEP §2142, "[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art

reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In suggesting a motivation for combining Rodriguez et al. with Cama et al., the Examiner alleges that it would have been obvious to "one having an ordinary skill in the [sic] at the time the invention was made" to modify the power supply of Rodriguez et al. by the technique taught by Cama et al. for the purpose of securing firm connection with external devices. The Examiner fails, however, to establish a basis in the prior art for combining Cama et al. with Rodriguez et al. The Examiner argues that the motivation for combining Cama et al. with Rodriguez et al. would be securing firm connection with external devices. However, neither Rodriguez et al. nor Cama et al. teach such a problem with an AC connection, let alone the desirability of using a communications interface (Cama et al. Column 2, line 4 to Column 3, line 20) to secure a connection with the AC terminals of a power converter (Rodriguez et al., Column 5, line 33-34 and 54). Absent some suggestion for combination, Applicants again maintain that *prima facie* obvious has not been established for the proposed combination.

Rodriguez et al. fails to teach using a communications interface to secure a firm connection with the AC terminals of a power converter. Instead, Rodriguez et al. merely teaches that the power converter has AC terminals (Rodriguez et al., Column 5 lines 33-34 and 54) to receive a connection. Since Rodriguez et al. fails to teach the need for securing a firm connection or the possibility of using a communications interface as taught by Cama et al., one of ordinary skill would not have been motivated to modify Rodriguez et al. or even to seek out the teachings of Cama et al.

Cama et al. also fails to teach using a communications interface to secure a connection with AC terminals. Instead, Cama et al. merely teaches an EMI shielded communications interface (Cama et al., Column 2 line 4 to Column 3 line 20). Since Cama et al. fails to teach the desirability of using a communications interface for the AC terminals of a power converter, one of ordinary skill in the art would not have been motivated to combine the teachings of the respective patents, or even recognize a need to securely attach the AC terminals. The Examiner has not asserted any other information to support a basis for the proposed combination. Absent such a teaching or

suggestion of a combination, Applicants once again respectfully submit that it is improper to combine Rodriguez et al. with Cama et al. under 35 U.S.C. §103 because no teaching has been identified to suggest or otherwise motivate one of ordinary skill in the art to seek to combine the patents (MPEP § 2143.01(I)).

Applicants respectfully maintain that it is also impermissible to combine the teachings of Cama et al. with the teachings of Rodriguez et al. under 35 U.S.C. §103 as Rodriguez et al. and Cama et al. are in non-analogous art categories. Rodriguez et al. is directed to the field of power converters (Rodriguez et al., Column 1, 27-40) whereas Cama et al. is directed to the field of EMI shielded communications interfaces (Cama et al., column 2 line 4 to 3 line 20). MPEP 2143.01 (II) states:

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts.
[Emphasis added]

The Examiner is respectfully requested to reconsider and withdraw the rejection under 35 U.S.C. §103 based upon the improper combination of Rodriguez et al. and Cama et al.

Considering, *in arguendo*, a combination as the basis for rejection of claims 1 and 14, it is noted that the proposed combination of Rodriguez et al. and Cama et al. would still fail to teach all the limitations of amended claims 1 or 14. As set forth above, independent claim 1 now recites the "power converter is mountable as a component on a printed circuit board to supply direct current power to the printed circuit board." Similarly, claim 14 requires that "said power converter is mounted as a component on said circuit board to supply power to said circuit board." Rodriguez et al. and Cama et al. both fail to teach, such limitations. Accordingly, the rejection is respectfully traversed over the arguable combination of Rodriguez et al. and Cama et al. and claims 1 and 14 are urged to be in condition for allowance.

Rejection under 35 U.S.C. §103 over Rodriguez in combination with Nakamura

Claim 7 is rejected under 35 U.S.C. §103 over Rodriguez et al. in combination with Nakamura et al. (U.S. Patent 4,906,208). The Examiner urges it would have been obvious to modify Rodriguez et al. utilizing the techniques of Nakamura et al. for the

purpose of providing an encapsulated power supply. While Nakamura et al. does teach a PCB receptacle, the rejection does not set forth why one would have been motivated to modify Rodriguez et al. or even whether such a modification is possible.

Furthermore, Applicants submit that Rodriguez et al. fails to teach an electronic encapsulated power converter having threaded mounts extending from the case where the threaded mounts are earth grounded and allow the converter to be rigidly mounted as a component to a circuit board, as now set forth in claim 7. Nor does Rodriguez et al. teach an integrated 3-pin connector for receiving a detachable alternating current line cord, where the connector is accessible through a case.

Nakamura et al., teaches a connector adapted to mount on a circuit board (Column 3 lines 4-5) and, although suggesting that the connector may be mounted using a screw, still fails to teach threaded mounts extending from the case where the threaded mounts are earth grounded as set forth in claim 7. Since Rodriguez et al. and Nakamura et al., either alone or in combination, fail to disclose all elements set forth in amended claim 7, the rejection is respectfully traversed and the Examiner is respectfully requested to reconsider and withdraw the rejection under 35 U.S.C. §103.

Rejection under 35 U.S.C. §103 over Cross in combination with Rodriguez

Claim 8 is rejected under 35 U.S.C. §103 over Cross (U.S. Patent 5,615,097) in combination with Rodriguez et al. The Examiner urges that Cross discloses the claimed subject matter of claim 8 except an encapsulated power converter, but that Rodriguez et al. teaches the utilization of a similar technique for an encapsulated power converter. The rejection is respectfully traversed.

As set forth above, independent claim 8 recites an encapsulated alternating current to direct current power converter having an inrush current limiting circuit, including: a bridge rectifier with a direct current return path, a MOSFET switch connected to the direct current return path of the bridge rectifier, a capacitor which is charged via a current limited source, a voltage level detection circuit to maintain the MOSFET switch in an off state until a line voltage reaches a near zero threshold, a resistive charging path to turn the MOSFET switch to an on state once the line voltage reaches the near zero threshold, a resistive connection to a housekeeping supply of the

power converter which maintains the MOSFET switch in the on state, wherein said current limiting circuit is encapsulated with the power converter.

The Examiner alleges that Cross teaches the claimed subject matter of claim 8, except an encapsulated power converter. Applicants respectfully disagree and, as noted in the telephonic interview, believe that Cross fails to teach several limitations of the claim. Specifically, as previously urged by the Examiner (Office Action October 19, 2006, p. 5 (top)), "Cross does not disclose the utilization of the technique for an encapsulated current limiting circuit ..." Applicants agree that the inrush current limiting circuit recited in claim 8 is not disclosed by Cross. Nor is it disclosed by Rodriguez et al. In fact, the Examiner previously admitted that Rodriguez et al. fails to teach an inrush current limiting circuit. As stated in Part 3 of the Office Action of October 19, 2006, "Rodriguez et al. in combination with Cama et al. disclose the claimed subject matters [sic] as explained in claim 1, above, except the utilization of the technique for a inrush current limiting circuit, a rectifier, a MOSFET, a capacitor, a resistive charging and a resistive connection." Thus the Examiner is on record as having previously acknowledged that both Rodriguez et al. and Cross fail to teach the recited inrush current limiting circuit.

More specifically, Cross teaches that a MOSFET is normally on until a high voltage is reached (Cross, Column 5, lines 30-31), instead of an in rush current limiting circuit including a the voltage level detection circuit, as set forth in claim 8, to turn the MOSFET switch to an on state once the line voltage reaches the near zero threshold. Cross describes a circuit that limits the input current (different from the inrush current). Cross has no means to limit the current into 58 at turn on (inrush). While Cross does have a MOSFET, it is controlled in an entirely different manner; Cross monitors the input voltage and the input current. If the voltage is greater then where the supply is designed to run (e.g., 380V on the bus) the MOSFET is turned off. Further, if the current reaches a current limit the Cross MOSFET is placed in a linear mode controlling it to run at the current limit until the current is reduced.

As noted above, claim 8 recites an inrush current limiting circuit including "a voltage level detection circuit to maintain the MOSFET switch in an off state until a line voltage reaches a near zero threshold," "a resistive charging path to turn the MOSFET switch to an on state once the line voltage reaches the near zero threshold," and "a

resistive connection to a housekeeping supply of the power converter which maintains the MOSFET switch in the on state.” The claimed inrush current limiting circuit includes the voltage level detection circuit to monitors the voltage across the FET and only switches it on when the voltage reaches a near zero threshold.

In summary, Cross and Rodriguez et al., both individually and in combination, fail to teach, suggest or render obvious an inrush current limiting circuit as specifically set forth in independent claim 8. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection of claim 8 under 35 U.S.C. §103.

CONCLUSION

In view of all the remarks set forth above, the Examiner is respectfully requested to reconsider and withdraw the present rejections. Also, an indication of allowability is earnestly solicited.

Respectfully submitted,



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